



To: ALL HEALTH CARE PROFESSIONALS  
From: Ron Kirschner, MD, Medical Director  
Subject: Update on Synthetic Cannabinoids  
Date: 4/30/15

---

- Marijuana substitutes consisting of plant material sprayed with various synthetic cannabinoids (SCs) have become increasingly popular over the past few years.
- These are often sold on the internet as incense or potpourri under brand names such as "Spice" or "K2" and labeled "not for human consumption," though users typically smoke them.
- SCs are more potent cannabinoids compared with those found in plant marijuana. They may also have other pharmacologic effects and the products may contain additional substances.
- Because sellers of these products often modify the chemical structure to avoid legal restrictions, the effects of newer generation SCs may vary from older products with similar brand names.
- Abuse of SCs has been associated with agitated delirium, CNS depression requiring endotracheal intubation, seizures, kidney failure, stroke, and myocardial infarction.
- Over the past month there has been a dramatic increase in exposures reported to poison centers nationwide, with both severe agitation and CNS depression following SC abuse.
- The mainstay of treatment for SC intoxication remains supportive care including:
  - Airway support if clinically indicated
  - Benzodiazepines for agitation or seizures
  - Routine chemistries along with additional testing as needed to identify other causes of altered mental status
- Synthetic cannabinoids will not be detected by standard urine drug screens. Specialized reference labs may be able to identify some SCs, but results are unlikely to be available in real time.
- **Please call us if you see patients who have abused these products, so we can better track the growth of this trend for public health purposes and provide optimal care for our patients.**

#### References

- Increasing overdoses from synthetic cannabinoids ("Spice," "K2," etc.) in several states, updated 4/20/15, <http://www.drugabuse.gov/drugs-abuse/emerging-trends>, accessed 4/29/15.
- Buser. Acute kidney injury associated with smoking synthetic cannabinoid. *Clin Toxicol* 2014; 52:664.
- McKeever. K2: Not the spice of life: Synthetic cannabinoids and ST elevation MI. *J Med Toxicol* 2015; 11:129.
- Takematsu. Acute cerebral ischemia following inhalation of a synthetic cannabinoid. *Clin Toxicol* 2014; 52: 973.

**Our trained staff of nurse specialists in poison information and physician toxicologists is available 24 hours a day to answer your questions.**